

# ABB BALDOR RELIANCE III

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## Customer information packet

### ECS100A4H1DB4

1HP, 1800RPM, 3PH, 60HZ, 145TC, 3516B, TEFC, F1

Class - None

Division - Not Applicable

**Specifications**

|                                |                                |
|--------------------------------|--------------------------------|
| Enclosure                      | TEFC                           |
| Frame                          | 145TC                          |
| Frame Material                 | Steel                          |
| Frequency                      | 60.00 Hz                       |
| Haz Area Class and Group       | None                           |
| Haz Area Division              | Not Applicable                 |
| Motor Letter Type              | Brushless Wound Field PM Rotor |
| Output @ Frequency             | 1.000 HP @ 60 HZ               |
| Phase                          | 3                              |
| Synchronous Speed @ Frequency  | 1800 RPM @ 60 HZ               |
| Voltage @ Frequency            | 460.0 V @ 60 HZ                |
| Agency Approvals               | BLUETOOTH<br>CULUS<br>WEEE     |
| Ambient Temperature            | 40 °C                          |
| Auxiliary Box                  | NO AUXILLARY BOX               |
| Auxiliary Box Lead Termination | None                           |
| Base Indicator                 | Rigid                          |
| Bearing Grease Type            | Polyrex EM (-20F +300F)        |
| Blower                         | None                           |
| Constant Torque Speed Range    | 6                              |
| Current @ Voltage              | 1.050 A @ 460.0 V              |
| Design Code                    | -                              |
| Drip Cover                     | No Drip Cover                  |
| Duty Rating                    | CONT                           |
| Efficiency @ 100% Load         | 90.3 %                         |
| Electrically Isolated Bearing  | Not Electrically Isolated      |
| Feedback Device                | NO FEEDBACK                    |
| Heater Indicator               | No Heater                      |
| High Voltage Full Load Amps    | 1.1 a                          |
| Insulation Class               | F                              |
| Inverter Code                  | 03                             |

**Part Detail**

|              |                       |
|--------------|-----------------------|
| Revision     | E                     |
| Type         | AC                    |
| Mech. spec.  | 35E5351               |
| Base         |                       |
| Status       | PRD/A                 |
| Elec. spec.  | 35WGG965              |
| Layout       | 35LYE5351             |
| Eff. date    | 09-24-2025            |
| CD Diagram   | CD0006B03             |
| Poles        | 04                    |
| Leads        | 3#14 13" LONG LEADS Y |
| Proprietary  | False                 |
| Created date | 05-07-2024            |

|                                      |                     |
|--------------------------------------|---------------------|
| <b>KVA Code</b>                      | -                   |
| <b>Lifting Lugs</b>                  | No Lifting Lugs     |
| <b>Locked Bearing Indicator</b>      | Locked Bearing      |
| <b>Motor Lead Quantity/Wire Size</b> | 3 @ 14 AWG          |
| <b>Motor Lead Termination</b>        | Flying Leads        |
| <b>Motor Standards</b>               | NEMA                |
| <b>Motor Type</b>                    | 3516B               |
| <b>Mounting Arrangement</b>          | F1                  |
| <b>Number of Poles</b>               | 4                   |
| <b>Overall Length</b>                | 17.71 IN            |
| <b>Power Factor</b>                  | 97                  |
| <b>Product Family</b>                | General Purpose     |
| <b>Pulley Face Code</b>              | C-Face              |
| <b>Rodent Screen</b>                 | None                |
| <b>Service Factor</b>                | 1.00                |
| <b>Shaft Diameter</b>                | 0.875 IN            |
| <b>Shaft Ground Indicator</b>        | Shaft Grounding     |
| <b>Shaft Rotation</b>                | Reversible          |
| <b>Speed</b>                         | 1800 rpm            |
| <b>Speed Code</b>                    | Single Speed        |
| <b>Starting Method</b>               | Direct on line      |
| <b>Thermal Device - Bearing</b>      | None                |
| <b>Thermal Device - Winding</b>      | None                |
| <b>Vibration Sensor Indicator</b>    | No Vibration Sensor |
| <b>Winding Thermal 1</b>             | None                |
| <b>Winding Thermal 2</b>             | None                |

**Nameplate**

| NP3968A01A01 |               |    |       |           |         |       |      |      |     |
|--------------|---------------|----|-------|-----------|---------|-------|------|------|-----|
| CAT.NO.      | ECS100A4H1DB4 |    |       |           |         |       |      |      |     |
| SPEC.        | 35E5351G965   |    |       |           |         |       |      |      |     |
| FRAME        | 145TC         |    |       | ENCL.     |         | TEFC  |      | IP   | 54  |
| HP           | 1             | 40 | C AMB |           |         | CONT  |      |      |     |
| NOM. EFF.    | 89.5          |    | PF    | 97        |         | SF    |      | 1    |     |
| VOLTS        | 460           |    |       | FLA       |         | 1.2   |      |      |     |
| RPM          | 1800          |    |       | RPM-MAX   |         |       | 3600 |      |     |
| HZ           | 60            |    |       | PH.       | 3       | CLASS |      | F    |     |
| BEMF (V)     | 269           |    |       | RS (OHMS) |         |       |      | 19.7 |     |
| LD (MH)      | 117           |    |       |           | LQ (MH) |       |      |      | 500 |
| VPWM         | CHP           | 60 | TO    |           | 120     |       |      |      |     |
| CT           | 6             | TO | 60    |           | VT      | 6     | TO   | 60   |     |
| MATCHED INV  | ECI4A2P2      |    |       |           |         |       |      |      |     |
| DE           | 6205          |    |       | ODE       |         | 6203  |      |      |     |
| SERIAL #     |               |    |       |           |         |       |      |      |     |

| NP3978A01 |          |              |   |    |     |
|-----------|----------|--------------|---|----|-----|
| PART NO.  | ECI4A2P2 |              |   |    |     |
| U1        | 480      | PH           | 3 | HZ | 60  |
| I1        | 1.8      | W/EXT. CHOKE |   |    | 1.7 |
| SERIAL #  |          |              |   |    |     |

|          |      |          |              |            |           |       |                   |
|----------|------|----------|--------------|------------|-----------|-------|-------------------|
| Volts    | 460  | Max RPM  | 3600         | Conn Diag. | CD0006B03 | Leads | 3                 |
| Amps     | 1.05 | Max Amps |              | Cs Diagram | CS1126    | BEMF  | 269               |
| HP       | 1    | VFD#     | ECIN4A2P2    |            |           | LD    | 117               |
| RPM      | 1800 | S.F.     | 1.00         |            |           | LQ    | 500               |
| Phase/Hz | 3/60 | Rating   | 50C AMB-CONT |            |           | Rs    | 19.8095 Meas. L-L |

### 60034-2-3 Motor Performance at Standardized Operating Points

|    | RPM  | % Speed | LB-FT | % Torque | HP  | Efficiency | Loss<br>(% FL) | Watts Loss<br>(W) |
|----|------|---------|-------|----------|-----|------------|----------------|-------------------|
| P1 | 1618 | 90%     | 2.9   | 100%     | 0.9 | 88.2       | 11.94%         | 90                |
| P2 | 900  | 50%     | 2.9   | 100%     | 0.5 | 86.0       | 8.08%          | 61                |
| P3 | 450  | 25%     | 2.9   | 100%     | 0.3 | 79.2       | 6.50%          | 49                |
| P4 | 1621 | 90%     | 1.5   | 50%      | 0.5 | 87.1       | 6.62%          | 50                |
| P5 | 900  | 50%     | 1.5   | 50%      | 0.2 | 87.4       | 3.55%          | 27                |
| P6 | 900  | 50%     | 0.7   | 25%      | 0.1 | 86.0       | 2.02%          | 15                |
| P7 | 450  | 25%     | 0.7   | 25%      | 0.1 | 83.8       | 1.21%          | 9                 |

### 61800-9-2 PDS Performance at Reference Operating Points

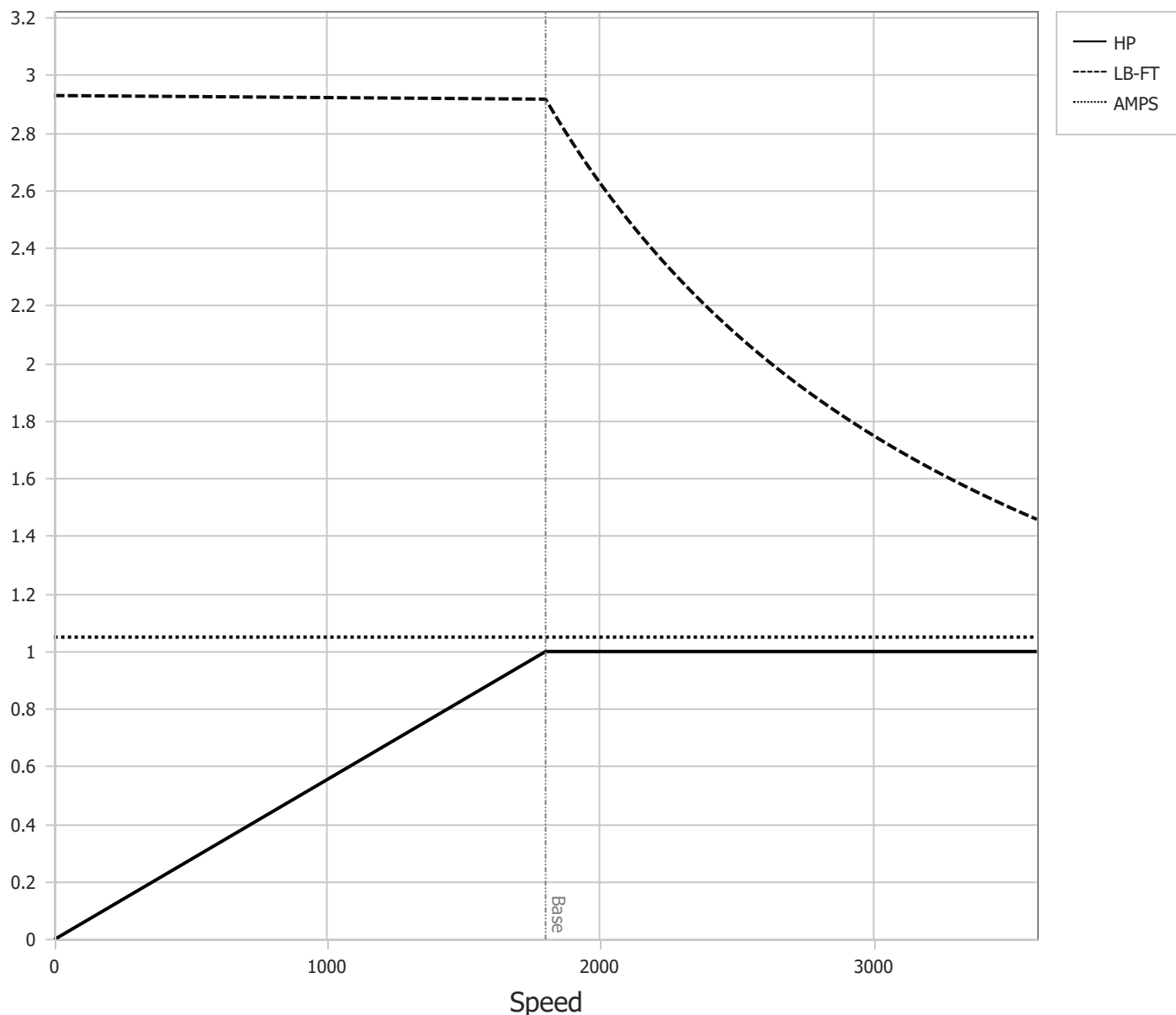
|    | RPM  | % Speed | LB-FT | % Torque | HP  | System<br>Efficiency | Loss<br>(% FL) | Watts Loss<br>(W) |
|----|------|---------|-------|----------|-----|----------------------|----------------|-------------------|
| P1 | 1799 | 100%    | 2.9   | 100%     | 1.0 | 87.0                 | 14.73%         | 111               |
| P2 | 900  | 50%     | 2.9   | 100%     | 0.5 | 81.0                 | 11.61%         | 88                |
| P3 | 300  | 17%     | 2.9   | 100%     | 0.2 | 63.2                 | 9.59%          | 72                |
| P4 | 1802 | 100%    | 1.5   | 50%      | 0.5 | 83.5                 | 9.78%          | 74                |
| P5 | 900  | 50%     | 1.5   | 50%      | 0.2 | 79.4                 | 6.41%          | 48                |
| P6 | 300  | 17%     | 1.5   | 50%      | 0.1 | 61.5                 | 5.17%          | 39                |
| P7 | 900  | 50%     | 0.7   | 25%      | 0.1 | 73.2                 | 4.53%          | 34                |
| P8 | 300  | 17%     | 0.7   | 25%      | 0.0 | 53.7                 | 3.56%          | 27                |

Points not taken in certified order.

|                                                                                    |         |                   |                                            |                                                  |
|------------------------------------------------------------------------------------|---------|-------------------|--------------------------------------------|--------------------------------------------------|
|  | DR By:  | <u>R &amp; D</u>  | <b>AC MOTOR<br/>PERFORMANCE<br/>CURVES</b> | <b>35WGG965</b><br>35-0000-1623<br>Test - 111577 |
|                                                                                    | CK By:  | <u>USTOSAN</u>    |                                            |                                                  |
|                                                                                    | APP By: | <u>USWEQUA1</u>   |                                            |                                                  |
|                                                                                    | Date:   | <u>11/14/2024</u> |                                            |                                                  |

|          |      |          |              |            |           |       |                  |
|----------|------|----------|--------------|------------|-----------|-------|------------------|
| Volts    | 460  | Max RPM  | 3600         | Conn Diag. | CD0006B03 | Leads | 3                |
| Amps     | 1.05 | Max Amps |              | Cs Diagram | CS1126    | BEMF  | 269              |
| HP       | 1    | VFD #    | ECIN4A2P2    |            |           | LD    | 117              |
| RPM      | 1800 | S.F.     | 1.00         |            |           | LQ    | 500              |
| Phase/Hz | 3/60 | Rating   | 50C AMB-CONT |            |           | Rs    | 19.8095 Meas L-L |

Constant Duty Operating Range


**BALDOR • RELIANCE**

 DR By: R & D

 CK By: USTOSAN

 APP By: USWEQUA1

 Date: 11/14/2024
**AC MOTOR  
PERFORMANCE  
CURVES**
**35WGG965**

35-0000-1623

Test - 111577

